



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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217/782-2027

JUN 22 2012

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The Honorable Lewis Towers
Mayor, Village of Sauk Village
21801 Torrence Avenue
Sauk Village, Illinois 60411

Re: Village of Sauk Village/L17-4623
Project Plan Review Letter

Dear Mayor Towers:

This letter is to inform you that the Agency has conducted a review of the Project Plan for the Sauk Village project, L17-4623, with the current planning information consisting of the "Water Quality Improvement Plan", submitted May 15, 2012, and the "Supplemental Information", submitted June 11, 2012 by your consulting engineer, Robinson Engineering Co., LTD. This information was submitted for Agency review as part of the application requirements for the Public Water Supply Loan Program (PWSLP), and we want to be clear in stating that we have serious concerns regarding both the time line associated with the project, and the affordability of the project as currently configured. Please submit a written response to the following information items at your earliest possible convenience. This information will be central to the completion of our review of the Project Plan.

1. The Project Plan states that Sauk Village has chosen the alternative of Lake Michigan water from Chicago Heights via a water main connection along Sauk Trail. Due to the requirements associated with a Lake Michigan water source (water loss limits, storage, etc.), this alternative includes significant costs for water main replacement and a new water reservoir. The total estimated cost for this alternative, \$19,700,000, would clearly have a significant financial impact on the community, requiring an average monthly residential water bill of at least \$108.78 for system operation and loan repayment. Based on Agency guidelines, any project which will require annual water bills approaching 2.0% of the median household income (MHI) in a particular community is judged to be at high risk for loan repayment, calling into question the affordability of the project. In this case, the proposed annual water bill ($\$108.78 \times 12 = \$1,305.36$), divided by the 2009 MHI for the Village (\$49,060), is 2.66% of that MHI; significantly higher than the 2.0% affordability limit. Based on this analysis, the proposed project does not appear to be a cost-effective alternative. For additional consideration to be given to this alternative, the Agency will require the enactment of rate ordinances and the institution of water rate increases sufficient to generate revenues required to repay a loan of \$19,700,000 or more. Please discuss the ability, and willingness, of Sauk Village residents to assume the

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necessary water rates, and provide a timetable for the initiation of a new rate structure. (Note: While the "Supplemental Information" decreased estimated project costs from \$19,700,000 to \$19,100,000, the proposed planning cost estimates are based on 2011 prices and the majority of the project would be scheduled for construction in 2015. Based on program experience, cost increases will likely push final costs for this alternative to well over \$20 million).

2. One of the alternatives evaluated by the Project Plan, the installation of vinyl chloride removal facilities at the existing water treatment plants, would provide the means to treat all source water at an estimated cost of \$4,600,000. Clearly, this alternative would provide an adequate supply of source water, while assuring compliance with all standards at a much more affordable cost. The Agency agrees that distribution system improvements are needed; however the costs for water main replacement could be phased to occur over a number of years, resulting in a more affordable approach for the community. Replacements are normally scheduled as proven necessary by the results of leak detection surveys and a thorough analysis of the distribution system. This one-time replacement project for \$8,900,000 has apparently been designed primarily to meet the requirements for obtaining Lake Michigan water. Please provide additional discussion on the alternative of installing vinyl chloride removal facilities at the existing water treatment plants. An analysis of the financial impacts of this alternative should be included; along with a discussion of the most critical distribution system needs. Estimates of the resulting average monthly residential user charge should be provided for comparison purposes.
3. The Project Plan proposed the following infrastructure repairs for water loss elimination:
 - 22,200 linear feet (L.F.) of 8-inch diameter water main
 - 2,300 L.F. of 10-inch diameter water main
 - 1,700 L.F. of 12-inch diameter water main
 - 2,943 water meter replacements

The June 11, 2012 "Supplemental Information" deleted the water meter work, but did not delete the costs from the overall project. The "Supplemental Information" also discussed a village wide leak detection survey to attempt to locate other sources of water loss. The Agency concurs with this approach, but will require additional detail and information before approving a scope of work of this magnitude; namely 26,200 L.F. of water main replacement. Please provide:

- Additional details on how the water mains were selected for replacement (more than one water main break that occurred in the past 11 years).
- Information on the age, material and condition of the water mains.
- Details on the existing diameter size versus the proposed diameter size for water mains to be replaced, along with justification for any proposed upsizing.
- An estimate of the amount of water loss prevention to result from the proposed work.

4. The Project Plan discussed an emergency Lake Michigan water interconnection with South Chicago Heights. The proposal was for 1,200 L.F. of 12-inch diameter water main at a cost of \$400,000. The "Supplemental Information" changed the proposal to an emergency interconnect with Chicago Heights. This project is 2,000 L.F. of 16-inch diameter water main at an estimated cost of \$560,000. The Agency endorses your plans for an emergency interconnection, and urges you to complete this portion of the project as soon as possible, and regardless of the outcome of the other significant issues involved with this Project Plan. If the Village has local funding available, that funding would offer the quickest route to getting the emergency interconnection constructed. If the Village is seeking Loan Program funding, the emergency interconnection scope of work should be broken out as a separate project. This scope of work could proceed independently on an expedited schedule. Please provide details on how the Village wishes to proceed with the emergency interconnection project.
5. The Project Plan states on Page 2 that "the IDNR will only approve a Lake Michigan water allocation if the cost of delivering Lake Michigan water is less than the cost of treatment of the locally sourced water". Based on the Agency's review of the Project Plan, satisfaction of that requirement by the chosen alternative is called into question. As previously discussed, the alternative involving the installation of vinyl chloride removal facilities at the existing water treatment plants appears to be the cost-effective alternative. Page 21 of the Project Plan states that this alternative would achieve a safe and sufficient water supply with the current water quality. Our review indicates that this alternative offers the ability to achieve compliance in far less time, an extremely important consideration under the circumstances faced by the community, and at roughly one-fourth the cost of the recommended alternative (Lake Michigan water). The treatment alternative, at a cost of approximately \$5 million, is within the Loan Program's affordability guidelines and would be significantly less burdensome to Sauk Village residents. Under the treatment alternative, additional distribution system improvements (including looping the system across I-394) could be accomplished in the future as funding allows. Please re-evaluate the alternatives, providing realistic discussion regarding the affordability issue and the financial impact of the various alternatives on the residents who will ultimately be responsible for paying the necessary water rates.

If you have any questions, please contact me at 217/782-2027.

Sincerely,

Roger Vollbracht

Roger Vollbracht, Project Manager
Infrastructure Financial Assistance Section
Bureau of Water

cc: Clerk, Village of Sauk Village
Cons. Engr., Robinson Engineering Co., Ltd.